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SUBJECT: CHICAGO OPERATIONS OFFICE STATUS REPORT ON CHEMICAL
VULNERABILITY ACTIONS

Reference: Memorandum, Federico Peña to Program Secretarial
Officers, dated August 4, 1997, Subject: DOE Response to
the May 14, 1997, Explosion at Hanford's Plutonium
Reclamation Facility

Enclosed is the current status of the actions being taken in response
to the referenced memorandum.

If you have any questions, please contact Justin Zamirowski at (630)
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Technical Services.

Original signed by
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Enclosure:
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**CHICAGO OPERATIONS OFFICE (CH)
STATUS REPORT ON CHEMICAL VULNERABILITY ACTIONS**

Action Item 1

Scrutinize the use or storage of any chemicals that have the potential for explosion, fire, or significant toxic release, and promptly dispose of unneeded chemicals in accordance with safety requirements and environmental regulations.

Status:

Argonne National Laboratory-East (ANL-E)

- **ANL-E has established a strategy assigning permanent ownership of each square foot of laboratory space. Guidance has been issued for conducting the chemical vulnerability assessments and training sessions are being conducted for laboratory space "owners". The guidance contains specific details on the types of chemicals and items to be located. The assessment is comprehensive.**

To date, 40% of the training has been completed and 30% of the assessments have been completed.

- **The Chemistry Division has undertaken the disposal of 1500 surplus chemicals from various laboratories. Other divisions are proceeding with similar activities.**
- **ANL-E is in the process of implementing an accelerated program for disposal of all unneeded chemicals. ANL-E's waste management organization is assisting in these disposals.**

Instruction have been sent to Chemical users for accelerated disposal. This task is considered 30% completed.

This action is 30% complete with the completion scheduled for March 31, 1998.

ANL-West (ANL-W)

- **Walk-throughs are being conducted by ANL-W to identify weaknesses in the area of proper chemical/waste handling and storage.**

Walk-throughs are being conducted at ANL-W with the following results:

- Approximately 50% of the Satellite Accumulation Areas (SAAs) have been eliminated.
- Policy statements for six areas of concern for handling regulated material have been developed.
- An ongoing Lab Pack Program is in place at ANL-W to dispose of unneeded chemicals. The Lab Pack Program consists of packaging of accumulated waste chemicals by a certified waste disposal company the shipment off-site for disposal, as well as all required documentation. The current campaign has resulted in the identification of approximately 800 unneeded chemicals. A Lab Pack shipment is being prepared that will contain approximately 84.7 cubic feet of hazardous waste
- ANL-W has developed a comprehensive list of tanks and casks.
- Hazardous materials disposition plans have been developed for EBR-II lead and mercury.
- 9,000 pounds of lead has been shipped to a lead recycler and the lead has been fabricated into new shield plugs for remote waste cans.
- A Pollution Prevention Opportunity Assessment (PPOA) for recycle/disposal options concerning the future generation of empty Fermi sodium drums has been completed.
- Through the INEEL Material Exchange Program, ANL-W has shipped over 6,000 cubic feet of material for recycle/reuse during Fiscal Year (FY) 1997.

This action is 40% complete with the completion scheduled for December 22, 1997.

Ames Laboratory (AL)

- AL has developed a Chemical Management Program Manual that gives a detailed description of the chemical management systems.
- AL is conducting walk-throughs to assess proper storage and disposal of hazardous chemicals. Laboratory researchers and group leaders are verifying that current storage is within stated guidelines.
- A readiness review procedure is being utilized to identify hazards of various research projects.
- CH personnel will validate the actions indicated as completed by AL.

This action is 75% complete with the completion scheduled for March 31, 1998.

Environmental Measurements Laboratory (EML)

- EML has scrutinized the use and storage of chemicals for the potential of an explosion, fire, and significant toxic release.
- As a result of this review, approximately 200 pounds of excess chemicals will be disposed of by December 31, 1997.

The only activity remaining is the disposal of excess chemical which will be completed by December 31, 1997.

Fermi National Accelerator Laboratory (Fermilab)

- Departments/Divisions are reviewing chemicals in storage to identify those that are no longer needed.
- Departments/Divisions are scrutinizing the use and storage of chemicals with the potential for explosion, fire, or toxic release.
- In August 1997, Fermilab reconfirmed that the existing "Hazard Assessment Document" (HAD), with respect to chemicals stored and used on site, is still current.

This action is 90% complete with the completion scheduled for December 5, 1997.

New Brunswick Laboratory (NBL)

- NBL is conducting a 100% physical validation of entire chemical inventory.
- Disposal of unneeded chemicals as soon as they will be identified.
- In process of reviewing all radioactive sources, waste storage, and radioactive materials storage.

This action is 90% completed and will be completed by December 12, 1997.

Princeton Plasma Physics Laboratory (PPPL)

- PPPL has carried out a clean-out campaign to dispose of excess/expired chemicals.
- All excess/expired chemicals, capacitors, and other hazardous materials have been removed from the RF Building.
- By May 1998, all excess chemicals will be removed from the entire facility. (Completion Milestones are: D-Site January 31, 1998 and C-Site May 30, 1998.)
- An estimated 8,108 cubic feet of radioactive materials will be removed from the facility in FY 1998.

This action is 10% completed and will be completed by May 30, 1998.

Action Item 2

CH line managers and facilities shall develop an approval process to assure the disposal of safe and environmentally compliant storage and handling of hazardous chemicals.

Status:

CH is currently developing a process which will be used to approve the safe storage and disposal of hazardous chemicals. This process is in the early stages of development. The current status of this activity is as follows:

- **Currently CH Facility Management Groups are to provide "Strawman" processes to Safety and Technical Services by December 5, 1997.**
- **STS will use these inputs to further develop the CH procedure which will be used by CH Facility Management Groups.**

This action is 20% complete with the completion date scheduled for December 31, 1997.

Action Item 3

Reassess known vulnerabilities (chemical and radiological) at facilities that have been shutdown, are in standby, are being deactivated, or have otherwise changed their conventional mode of operation in the last several years, and report status to Program Secretarial Officers and the Assistant Secretary for Environment, Safety, and Health within 120 days. Facility operators will evaluate their facilities and operations for new vulnerabilities on a continuing basis.

ANL-E

- **ANL-E has reassessed chemical and radiological vulnerabilities at the following areas: waste management facilities, facilities that have been shutdown, are in standby position, or are being deactivated, and at aging storage facilities. The have identified procedures which need to be upgraded.**

The chemical management procedures needing upgrading will be revised by March 1998.

ANL-W

- **ANL-W has completed an internal review of the ANL-W Hazards Assessment Document.**

- The CH Argonne Group West has completed an independent review of the ANL-W Hazards Assessment Document.
- A joint CH/ANL-W task force has begun walking down ANL-W facilities in order to reassess chemical and radiological vulnerabilities. This effort is scheduled for completion by December 3, 1997.

This action is 60% complete with the completion date scheduled for December 22, 1997.

AL

- The Alpha Operations Facility (AOF) facility is the only operation/facility that meets this criteria. Characterization and disposition of radiological and chemical waste is in progress.
- Potential radiological vulnerabilities have been extensively reviewed and characterized. AL conducted a detailed Highly Enriched Uranium (HEU) Vulnerability Assessment in 1996. The conclusion of the assessment was that no HEU vulnerabilities exist at AL. There has been no change in the Laboratory's HEU status since the Assessment.
- AL conducted a detailed Plutonium ES&H Vulnerability Assessment. The conclusion of the review was that the Laboratory had no plutonium vulnerabilities.

This action is considered completed.

EML

EML has no facilities in "shutdown or standby" mode.

This action is considered completed.

Fermilab

- Fermilab reviewed its facilities and the operations within them and found no facilities in shutdown or standby mode.
- The 1996 Hazards Analysis Document has been re-evaluated to see if it is still current and to extract the lessons learned by the Hanford Explosion. They found it to be current to the hazards present at Fermilab facilities.

This action is complete.

NBL

NBL does not have any facilities in shutdown, standby, or deactivated status.

This action is complete.

PPPL

- The hazards analyses were reviewed and no vulnerability was found.
- Facilities which are not operating were also reviewed. These facilities are in a care-taking phase. The care-taking phase is the interim between safe shutdown and the initiation of D&D activities. During this time, scheduled surveillances and reviews are being conducted in accordance with established procedures.

This action is complete.

Action Item 4

DOE and contractor field organizations with operational responsibilities will assess the technical competence of their staffs to recognize the full range of hazards presented by the materials in their facilities, act on results, and implement training programs where needed.

Status:**ANL-E**

- The training and qualifications of individuals authorized to use hazardous chemicals is being reviewed.

This action is 85% complete with the completion date scheduled for December 31, 1997.

ANL-W

- ANL-W is currently assessing the technical line managers and support personnel ability to recognize facility specific hazards (including radiological, chemical, and physical).

This action is 42% complete with the completion date scheduled for December 22, 1997.

AL

- AL has reviewed the technical competence of its ES&H staff and has concluded that staff possessed the appropriate education and experience.
- The Training Program was also reviewed and found to be effective in identifying the need new training for work related hazards and ensuring that technical competence is maintained via required refresher training.

This action is complete.

EML

- A recent review by EML verified that the training program is adequate. Both the Hanford explosion and the storage tank incident were discussed at annual Chemical Hygiene review.

This action is complete.

Fermilab

In response the lessons learned from the Hanford explosion the Fermilab training program was reviewed to verify that it is adequate to keep staff aware of hazards in facilities. Fermilab uses Individual Training Plans tailored to each employee's job assignment that is commensurate with the hazards which may be encountered while performing their work. This review verified the training program to be adequate.

This action is complete.

NBL

- Supervisors are assessing technical competence issues with their employees.
- Hazard recognition training, specific to NBL hazards is being conducted.

This action is 40% complete with completion date scheduled for December 31, 1997.

PPPL

- Staff training records were reviewed and no deficiencies were noted.
- Facility Managers were given training to ensure their facility management responsibilities were understood.

This action is complete.

Action Item 5

Assess the site's Lessons Learned and Occurrence Reporting Programs to assure that 1) outgoing information is well characterized and properly summarized, and 2) incoming information is thoroughly evaluated, properly disseminated, appropriately implemented, and tracked through formal management systems.

Status:**ANL-E**

- The Lessons Learned Program and the Occurrence Reporting and Processing System procedures have been reviewed.
- As a result of the review upgrades are being made to these procedures.

This action is 60% complete with completion date scheduled for December 31, 1997.

ANL-W

- ANL-W issued a formal memorandum that provided supplemental guidance to their Occurrence Reporting and Processing procedure, for the reporting of emergency and significant non-emergency events.
- ARG-W reviews for concurrence, each annual revision to the ANL-W Occurrence Reporting and Processing procedure.
- ARG-W has completed a review of the ANL-W Occurrence Reporting and Lessons Learned Program. The review concluded that the program is satisfactory.

This action is 40% complete with completion date scheduled for December 22, 1997.

AL

- The current Lessons Learned Program and Occurrence Reporting and Processing System was reviewed and found to be effective.

This action is complete.

EML

- Currently a self-assessment of EML's lessons learned and Occurrence Reporting Programs is being conducted.

This action is 50% complete with completion date scheduled for January 31, 1998.

Fermilab

- Fermilab has a process for developing and sharing lesson learned. The ES&H Staff are linked to the DOE Lesson learned Society. The Fermilab home page is being linked to the ES&H Section lessons learned page. This action will be completed by December 31, 1997.

- The review has resulted in an action to develop a lab-wide program to screen and evaluate lessons learned information. This action will be completed by March 31, 1998.

This action is 50% complete with completion date scheduled for March 31, 1998.

NBL

- NBL is conducting a self-assessment of their lessons learned and Occurrence Reporting Programs.

This action is 40% complete with completion date scheduled for December 31, 1997.

PPPL

- PPPL has reviewed its ORPS Reporting Program and no deficiencies were noted.
- Lessons learned are broadcast at PPPL using their Event Summary Report System.

This action is complete.